Gay-Lussac, and van der Waals. Although the first problem formulated in symbols of the differential calculus is that of finding the tangent to a parabola, it is preceded by an introduction giving examples of discoveries in natural science which were made possible by calculus, and by a general explanation of the type of problems in science which lead to the idea of rates and the methods of the calculus. The inversion of raw sugar is used as an example to show the meaning of integration before any technique has been developed, and there is an abundance of illustrative material for an indefinite integral. The idea of a discontinuous function is presented by recalling the behavior of the volume of a substance which is being heated. The volume varies continuously up to the melting point, then takes a sudden increase, after which it again varies continuously.

The teacher of college mathematics in America is familiar enough with the complaints of his colleagues in the departments of physics, chemistry, and engineering. They assert, probably with ample justification, that the students cannot use the mathematics which they are supposed to have learned. One remedy for this difficulty might be to give the calculus, perhaps for a second time, at a later stage in the college course when the students had acquired enough background of scientific knowledge to appreciate the meaning of the mathematics. It seems impossible that a student able to understand the illustrative examples in Nernst and Schoenflies should fail to grasp the significance of the mathematical ideas or be unable to use the tools put before him.

At the end of the book is a list of problems for drill work and a collection of formulas beginning with elementary algebra and continuing through the calculus.

Only one error has been noted. On page 117, in equation (8), the constant of integration has not been properly determined. The same equation, however, is given correctly on page 125.

W. R. LONGLEY

Kartenkunde. By Dr. M. Groll. Neubearbeitet von Dr. Otto Graf. Vol. II, *Der Karteninhalt.* Berlin, Vereinigung wissenschaftlicher Verleger, 1923. 133 pp.

The second volume of Groll's Kartenkunde deals with the classification of maps and their contents. Particular attention is given to the various graphic methods of map construction and topographical representation. Copious historic and literary references and illustrations of various methods in various countries add to the interest and value of the second volume. On the whole it deserves the same praise as volume I, which the writer reviewed in this BULLETIN (vol. 29, No. 2 (February 1923), pp. 89–90).

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